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GOVERNOR'S COMMITTEE
STATE OF MARYLAND

PROPOSAL TO STUDY
THE SUBJECT OF PUBLIC VERSUS PRIVATE
OWNERSHIP AND OPERATION OF
PUBLIC SCHOOL TRANSPORTATION SYSTEMS

JANUARY 29, 1971

TOUCHE ROSS & CO.



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1345 AVENUE OF THE AMERICAS
NEW YORK 10019

January 29, 1971

The Honorable Governor Marvin Mandel
State House
Annapolis, Maryland 21404

Dear Governor Mandel:

In response to your request, we have prepared this proposal to conduct a study of public versus private ownership and operation of public school transportation systems in the State of Maryland.

We have attempted to be responsive to your request and communicate our high interest, our ideas, and our willingness to work closely with you and your committee. Our objective is to help resolve the long-standing controversy over school bus ownership, and we believe we have presented an approach to accomplish that.

Naturally, it is difficult to convey in a written proposal the complete details of what will be done and how we will do it. We believe it is essential to discuss our proposal in detail, and to answer questions you and your committee may have. One of the key points we would like to discuss is the relationship of the scope and fees for the project.

We have quoted a fee based on what we believe will be required to provide the State of Maryland with an in-depth analysis to accomplish the primary objective - resolution of the controversy.

We have evaluated various alternatives to our study approach in an attempt to minimize the total price. One alternative was to consider reducing the size of our sample to reduce the data collection effort and the amount of data to be collected in each school system. We are aware of your desire to limit the expense of the study, but we are reluctant to consider alternatives that we believe will detract from the credibility and persuasiveness of the results.

We are particularly interested in working with you on this project and we would very much like an opportunity to present our ideas to you and your committee.

Sanford Ackerman, a partner in our New York office, is available at your convenience and can be reached at (212) 425-5300.

Very truly yours,

Touche Ross & Co.

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M A N A G E M E N T S U M M A R Y

The State of Maryland has been providing its residents with an outstanding public school transportation service, using both publicly and privately owned and operated systems. There has been a great deal of controversy, however, over which type of ownership is more advantageous.

The 1969 session of the Maryland legislature established a governor's commission to study a resolution adopted by the Maryland State Board of Education urging a transition to public ownership.

The commission, after analyzing the conflicting testimony and evidence available on the subject of public versus private ownership and operation of the public school transportation systems, recommended that an in-depth study by an independent, impartial consulting firm be undertaken.

In recent years, many efforts have been made in Maryland and other states to study the costs of providing transportation services to public schools. Some of these studies have indicated that public ownership and operation of the public school transportation system is more economically advantageous than private ownership and operation. However, there is general agreement that none of the studies settled the issue.

We understand that the objectives of the proposed study should be to:

- Develop factually based and supportable recommendations to enable the State of Maryland to take a conclusive and well-documented position on the issue of whether public school transportation systems should be publicly or privately owned.
- Evaluate and improve, if necessary, the state contract formula to provide equitable reimbursement of costs to school districts for either publicly or privately owned transportation systems.

Our approach will be to set up teams of experts who will prepare persuasive "cases" for each side of the controversy and hold a private hearing during which each side will present its case in the form of testimony by expert witnesses. Based on that testimony, and on adversary discussions to sharpen and resolve the issues, we will prepare our recommendations.

More specifically, our method will be to use three teams:

- The private advocate team, which will prepare the best possible case for private ownership and operation.
- The public advocate team, which will prepare the best possible case for public ownership and operation.
- The independent team, which will collect the data, construct the data bank to enable the advocate teams to extract data for case preparation, hear and evaluate the expert testimony of each advocate team, and prepare the recommendations our firm will make to the governor's committee.

One of the major factors in the study is the true total cost of school bus transportation. To determine the total cost (including real and imputed costs) of owning and operating a school transportation system, all relevant cost elements must be defined. We will examine financial and operating records in the school districts and at contractors, and consult with knowledgeable people in the school districts and at bus contractors.

We anticipate that cost adjustments will be required to assure comparability among the data collected. These adjustments will:

1. Recognize and adjust for the differences in accounting practices among systems.
2. Assure cost comparability by considering which cost elements apply only to public transportation systems and which apply only to private transportation systems.

3. Impute certain costs that may not be shown in the financial records. We believe that there are several kinds of imputed costs relevant to this study. They are:

- Depreciation
 - . Publicly owned systems expense all bus purchases, whereas private contractors capitalize and depreciate bus purchases
 - . Buses depreciate at different rates depending on how much and where the bus operates.
- Rent for owned facilities
 - . Imputing equivalents of rent paid for owned facilities is necessary to assure cost comparability
- Salaries for owners, owner/operators, and other employers
 - . Imputing salary adjustments are often necessary for private companies to reflect the real value of services rendered
- Interest
 - . Interest costs will vary depending on the type of financing
- Taxes
 - . Publicly owned systems pay few if any of the taxes that private contractors must pay
- Cost of professional and other services
 - . Certain professional services for public systems are often supplied by other government agencies or are not allocated to the transportation system

To collect actual costs in a well-documented manner, we will design worksheets by expense category (salaries, salary related expenses, equipment and supplies, etc.) which will standardize and facilitate the data collection effort. Worksheets will also be developed to deal with the types of adjustments explained above.

We will choose a representative sample of school districts in the state considering existing ownership patterns, operating conditions, and operating philosophies. We will also consider the size, type, and location of the systems.

Once the sample has been selected, the data collection effort can begin. At each of the sample districts, members of the independent team will collect data by:

- Interviewing knowledgeable people in the school transportation systems (school districts and private companies)
- Examining cost, operating, and maintenance records
- Observing bus operations

Our cost collection effort will emphasize the labor, depreciation, repairs, and insurance accounts which generally represent about 90% of operating expenses. During our data collection effort, we will also collect data on taxes, interest costs, and so forth, to enable us to adjust actual data so that valid comparisons can be made.


For each company or school district, we will review the data collected and discuss any allocations or adjustments made with the appropriate contractor, district, or state personnel to obtain their agreement.

When all the data has been collected and validated, a data bank will be constructed so that the same consistent validated data will be available to both the private advocate and public advocate teams.

We have considerable experience in conducting large-scale, in-depth cost analysis and determination studies. These studies include the Maryland Retail Merchants Association study of the cost of credit, and the joint airline/travel agent marketing cost study. The latter involved data collection at 400 travel agencies, 300 airline city ticket offices, and 19 carrier home offices. Both studies are described in more detail in the body of the proposal.

Until the data bank is constructed and data analysis begins, the two advocate teams will be advising and consulting with the independent team on the definition of cost elements and the scope of data collection required. While the two advocate teams prepare cases in support of their positions, the independent team will construct a cost model from data in the data bank.

We expect that the model will contain the following kinds of operating characteristics:

- 
- Number of stops for boarding/discharging students
 - Number of students transported
 - Miles traveled
 - Average speed attainable between stops considering traffic and terrain

Based on this cost model of school transportation costs, we will recommend changes to the present cost reimbursement formula.

Each of the two advocate teams will be responsible for developing written documentation and preparing testimony in support of their position on the subject matter. Each advocate team will also prepare an expert witness presentation so that the independent team can evaluate the data presented. In addition, we will use the testimony, as appropriate, in presenting our recommendations.

In evaluating the data presented, the independent team will be assisted by several technical advisors who will not previously have participated in the study. We believe that this will combine the specific knowledge of the independent team with the objectivity of skilled but previously uninvolved advisors. The independent team will evaluate the data presented, study the alternatives, and prepare tentative recommendations and a draft of a final report.

This report will contain our conclusions and recommendations concerning the problem of public versus private ownership and the adequacy of the current reimbursement formula.

As in previous milestones of the project, we will meet with the governor's committee before preparing the final recommendations and report.

We are prepared to perform this study as proposed for a fixed fee of \$80,000, plus out-of-pocket expenses not to exceed 15% of the fee.

Our proposal, which follows, covers the above in much greater detail. It also includes a detailed work plan for completion of this study within a four-month period.

In addition, it describes our qualifications and previous experience in similar studies and includes resumes of key personnel who will work on this project.

In conclusion, we believe that we have a sound, practical approach to getting and presenting results that will resolve the controversy over school bus ownership.

B A C K G R O U N D

Free public school transportation has been an integral factor in the development and quality of public education in Maryland since the enactment of school transportation legislation in 1904. Although the state of Maryland provides funds and sets standards for service and safety for individual school districts, each school district has the authority to determine the type of transportation ownership system it desires. As a result, three ownership arrangements currently exist. Some school district transportation systems are publicly owned, some are privately owned, and some consist of both publicly and privately owned buses.

There has been a long-standing difference of opinion about which type provides the best and most economical transportation services, and what is the most equitable cost reimbursement program. The type of ownership is significant because of the considerable cost involved in Maryland's transportation program, the economic interests of the private owners, and the problems involved in defining and controlling the state's responsibility for pupils in transit between home and school.

Studies conducted by Maryland and other states have produced conclusions indicating that publicly owned and operated transportation systems are more economical on a per pupil basis than private systems. For instance, the Maryland Committee to Study Reimbursement for Public School Transportation appointed in 1962 concluded that it cost one and one-half times as much to transport pupils under a privately owned system as under a publicly owned one. Similarly, surveys conducted by New Jersey and Pennsylvania indicated that costs per pupil were almost twice as high for private contractors as for public systems. The cost differences from these studies have been difficult to apply to the issue of public versus private ownership, however, because the geographical areas and demographical make-up served by the two types of carriers are often different. These differences create varying servicing and operating conditions, and the cost elements used to determine total costs for the two have often been different or unknown.

Adding to the issue of cost difference has been the state law prohibiting bidding on public school transportation contracts. Bidding has been prohibited to avoid possible cost cutting measures which could lower the level of safety or service, and contracts have been awarded to private owners on the basis of their ability to service an area and to meet specified safety standards. Reimbursement of costs to privately owned systems, as well as public ones, has been determined by using a contract formula which was developed by Dr. David Zimmerman more than twenty-three years ago, and which has been adjusted several times since then to meet current operating conditions.

The problem relating to the responsibility for pupils in transit between homes and school or on school trips has also been difficult to resolve. Legally, the state is responsible for the safety of pupils during these trips. Philosophically and practically, however, it is difficult for the state to exercise responsibility for pupils transported by non-publicly owned systems.

The issue of public versus private ownership has been addressed by the Maryland State Board of Education, the legislature, and the executive office. Lack of specific knowledge and data, difficulty in clarifying relevant issues, and conflicting testimony, however, have prevented a decisive answer to the question. In 1968, the Maryland State Board of Education adopted a resolution urging transition to public ownership. Acting on this resolution, the 1969 Maryland legislature requested the appointment of a governor's commission to study the situation.

The governor's commission recognized that it did not have adequate information to make a definite recommendation. Instead, it recommended that an in-depth analysis of the problem be conducted by an independent and impartial consulting firm which would include the development of a new state pupil transportation cost reimbursement formula equitable for either type of ownership. The 1970 Maryland legislature acted on the commission's recommendations by resolving that the governor undertake an independent and impartial study of the issue. The governor has appointed a five-man committee to prepare project specifications and select an independent and impartial consulting firm to perform the study.

O B J E C T I V E S A N D S C O P E

The objectives of our participation in the State of Maryland public school transportation study will be to:

- Develop factually based and supportable recommendations that will enable the State of Maryland to take a conclusive and well documented position on the issue of whether public school transportation systems should be publicly or privately owned.
- Evaluate and improve, if necessary, the state contract formula to provide equitable reimbursement of costs to school districts for both publicly and privately owned transportation systems.

To accomplish these objectives, we will:

- Collect and analyze detailed cost and operating data for public and private transportation systems, and for special transportation, including field trip, scholastic event, handicapped pupil, and vocational education programs.
- Analyze and evaluate the philosophy and practices that are the present bases for establishing the type and level of pupil transportation programs in each school district.
- Validate all data used in the study to the extent that we believe is necessary for the purposes of the study. This will include pretesting data and using reasonableness and verification checks. We will not, within the scope of this study, certify, attest to, or render any opinion on any financial statements of any entity, public or private.
- Prepare and present in a constructive, concise, and non-technical manner a report covering all conclusions and recommendations of the study.

We will select and study, with approval of the governor's committee, transportation systems in six representative Maryland school districts, including Baltimore. It is our understanding that we will have free access to all necessary information and documentation at the local level, and full cooperation from school system employees and private contractors. Naturally, all data collected at districts and from contractors will be treated in a confidential manner when requested.

A P P R O A C H A N D M E T H O D O L O G Y

We have organized our study effort into three teams who will bring to each aspect of the study their outstanding skills and experience. The three teams will be called the:

- Private advocate team
- Public advocate team
- Independent team

Each team will play a specific role. The private advocate team will commit itself to preparing the best possible case for private ownership and operation. The members will use their own extensive experience and will also solicit aid and assistance from the governor's committee and other interested parties to prepare the most comprehensive and persuasive case possible. Similarly, the public advocate team will prepare the best possible case for public ownership.

The independent team will gather the data and develop a data bank from which the public and private advocate teams will draw to prepare their cases. Later, the independent team will hear the expert testimony of each advocate team, evaluate it, and prepare the recommendations our firm will make to the governor's committee.

James P. Duffy will lead our independent team and will also assume the role of project coordinator. Mr. Duffy has extensive experience in the area of cost collection, analysis, and project management and administration.

The public advocate team will be under the direction of Pat Loconto, a partner in our New York office and a member of the National Committee on Financial Planning and Control. The private advocate team will be directed by Milton Safane, a partner in our New York office and our Executive Director of the National Committee on Transportation. Both these men have significant experience in the subject matter, and both men have participated in hearings as expert witnesses. A further description of their experience, and that of James P. Duffy, can be found in the project organization and resume sections of this proposal.

We believe that our approach is unique and has the following benefits:

- Experts can prepare the best possible private case, public case, and testimony for each.
- The data will be drawn from a common pool (data bank) of consistent and comparable data.

- An independent group will evaluate and analyze the presentations, and prepare final recommendations.
- Expert testimony supporting the recommendations will have been tested in an adversary proceeding, and be available at the termination of our work.

Exhibit I is a graphic display of our approach, and the role of each team is discussed in greater detail in the following paragraphs.

The independent team will be responsible for defining each relevant cost element that is part of the total cost in providing public school bus transportation in the State of Maryland. Cost elements that enter into either public or private ownership and operation of public school bus transportation will be identified. The data collection group will confer with key members of the private company team and public ownership team to identify and discuss the relevant cost elements that should be defined.

The data collection group will design the data collection procedures and collect the data, and, after consultation with the advocate team leaders and the governor's committee, will be responsible for selecting the public school systems to be included in the study. Once the data has been collected and analyzed, and a data bank has been constructed, the data collection group will turn over most of the remaining aspects of the study to the two advocate teams.

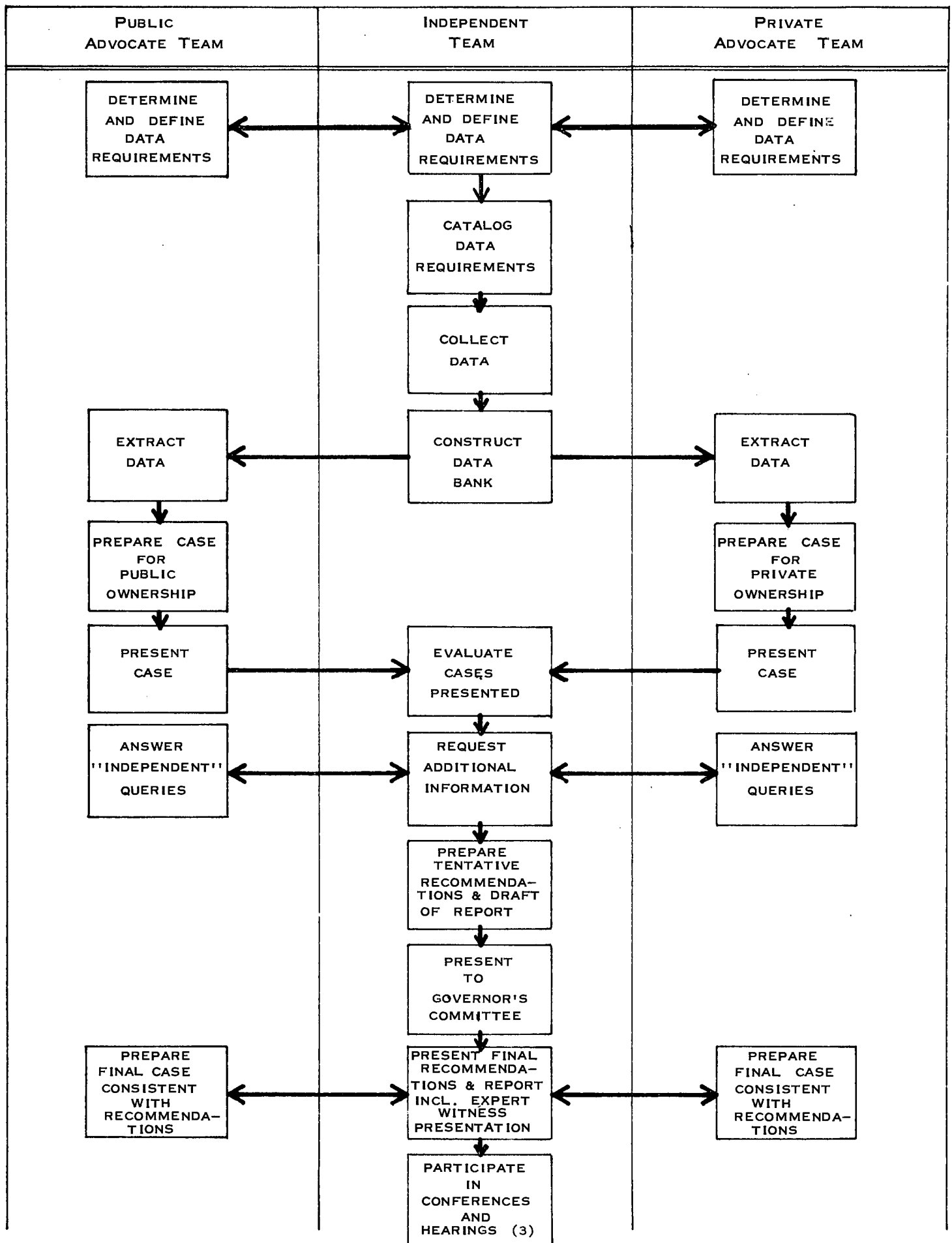
The advocate teams will extract relevant data from the data bank and prepare cases in support of public ownership and operation of public school transportation systems or private ownership and operation of public school transportation systems. Written testimony will be developed and discussions will be held to prepare the cases in support of each position. Expert witnesses will participate in these discussions and meetings.

Finally, the data presented will be evaluated by the independent team, alternatives will be studied, and tentative recommendations will be discussed with the governor's committee. Thereafter, we will write a final report describing our work and containing our conclusions and recommendations.

In the sections below, we describe in detail our approach and methodology for this study as it relates to:

- Definition of cost elements
- Design of data collection procedures
- Selection of representative school districts
- Data collection
- Data analysis and case preparation
- Evaluation of cases presented, and preparation of recommendations.

PROJECT ORGANIZATION OF WORK ACTIVITIES



DEFINITION OF COST ELEMENTS

All of the relevant cost elements that determine the total cost (including real and imputed costs) of owning and operating a school transportation system must be defined. This task will include a detailed review of every item on the uniform system of accounts for omnibus corporations. In addition, private bus contracts and previous reports on the subject matter must be carefully reviewed. We will also examine selected financial and operating records in the school districts and at contractors to ascertain that all relevant cost elements are considered. Our experience with the Philadelphia Board of Education and our numerous bus transportation clients will be of invaluable aid in these areas. Other experience in designing cost and rate structures will be used when we study the elements of the reimbursement cost formula in detail. The relationship of each cost element to relevant operating statistics will be analyzed within a system, as well as among systems. The variable and fixed aspects of each cost element will be studied for each expense category. Expense categories should include the following:

- Salaries (full and part-time)
 - . bus drivers and substitute drivers
 - . clerks
 - . supervisors and dispatchers
 - . all other personnel
- Salary related expense
 - . hospitalization
 - . workmen's compensation
 - . unemployment insurance
 - . other types of fringe benefits and salary related expenses
- Equipment and supplies and related expenses
 - . vehicles
 - .. buses (regular and spares)
 - .. emergency repair trucks
 - .. snow plows
 - .. other (i.e., insurance on vehicles)
 - . supplies
 - .. tires
 - .. chains
 - .. gasoline
 - .. repair parts

- Offices and buildings and related expenses
 - . garages
 - . parking lots
 - . other tools, machinery and equipment
 - . office expenses
 - .. rent
 - .. professional fees
 - .. stationery and printing
 - .. advertising
 - .. postage
 - .. insurance
 - .. other
- Depreciation
 - . buses
 - . office equipment
- Interest
- Taxes

To assure comparability among the data collected, three different types of cost adjustments will be necessary. The first type of adjustment will be to recognize and adjust for the differences in accounting practices among systems. It is necessary to assure that accounting variations and treatments among districts and companies do not alter the interpretation of cost elements. An example of this type of adjustment is for differences in depreciation methods for the same piece of equipment among private transportation systems (straight line versus accelerated depreciation methods).

It is also quite logical to assume that buses experience a decline in service value based on use, among other factors. Therefore, buses will depreciate in a given year at different rates depending on how much the bus operates. A bus in constant use for transporting pupils and for other programs and charter work must be treated differently from one used only to transport pupils to and from school.

The second type of adjustment, when comparing publicly and privately owned systems, concerns the treatment of items such as taxes and other costs not incurred in the same manner by both public and private owners. Adjustments may have to be made to insure cost comparability by considering the reduction of tax revenue (less the expenses of administering the tax) when a publicly owned and operated transportation system exists. We will examine all the various cost elements and see which cost elements apply only to public transportation systems or private transportation systems, and devise suitable adjustments.

The third type of adjustment that may be required is to adjust the actual financial data for certain imputed costs that may not be shown in financial records. These adjustments will help insure that all relevant costs, actual or imputed, are considered in determining the total cost of providing public schools with public or private transportation systems. We believe there are several kinds of imputed costs relevant to this study. They are:

- Depreciation
- Rent for owned facilities
- Salary adjustments for owners, owner/operators, and other employees
- Interest adjustments
- Professional and other services

An equivalent depreciation value must be included for publicly owned systems that now show bus purchases as expenses in the year of purchase. Another kind of adjustment may involve imputing equivalents of rent paid for owned premises, so that, among the systems, the cost of owned property can be compared with the cost of rented property.

Occasionally, especially in private companies, a salary may not reflect the real value of the services rendered. Many owners have different criteria regarding their own compensation. It may therefore be necessary to make adjustments to owner compensation to reflect the difference between salary for services rendered and return on his invested capital.

Some support services such as auditing and accounting, and legal, may not appear in district financial records because they are supplied by other agencies of government, or are not allocated to transportation. An adjustment must be made for such expenses.

Another kind of adjustment may involve imputing interest costs where these costs do not appear in the books of account. The interest costs will vary depending on the form of ownership and operation of a system. The cost of capital will be considered, and returns on investment in buses and other assets will be evaluated. The minimum rate of imputed interest for public transportation systems should be the cost of capital of the taxpayer, because the taxpayer could alternatively invest the money he has paid for taxes.

Exhibit II is an example of a cost adjustment schedule to show how each cost element in each district can be entered and compared. Each adjustment would be explained on a separate sheet to document how it was made.

COST ADJUSTMENT WORKSHEET

PUBLIC COSTS AS RECORDED	ADJUSTED COST ON A COMPARABLE BASIS		PRIVATE COST (COLLECTED OR IMPUTED)
	ITEM NAME	PUBLIC	PRIVATE
PERSONNEL EXPENSE \$ XXXX	SALARY EXPENSE ①	\$ XXXX	PAYROLL EXPENSE \$ XXXX
PURCHASE OF CAPITAL ITEMS XXXX	DEPRECIATION ②	XXXX	DEPRECIATION XXXX

① AND ② REFERENCE TO EXPLANATION OF ADJUSTMENTS

This part of the study will also involve the defining of all terms to be used in the study. We expect to meet with the governor's committee at the conclusion of this task to discuss the relevant cost elements and terms defined. The governor's committee will then have an opportunity to aid us in determining the completeness of our work, and the feasibility of collecting the necessary cost elements.

DESIGN DATA COLLECTION PROCEDURES

Worksheets will be designed to collect the relevant cost elements. This will standardize and facilitate the data collection and cost analysis effort.

The worksheets will enable us to collect the cost information by expense category. For example, there will be worksheets for salary data collection. We envision, in collecting salary information, that allocations will have to be made for employees who have two or more functions, particularly when time is spent other than on school bus transportation. Salary related expenses should be allocated in the same manner as salaries. Worksheets will also be designed to collect cost information for equipment and supplies, and other defined expense categories.

We will also have worksheets to deal with the types of adjustments explained in the previous section. These types of adjustments will recognize and adjust for:

- Differences in accounting practices among public school transportation systems
- Differences in the kinds of cost elements applicable in private versus public transportation systems
- Differences between true cost and the cost shown on published financial data due to the existence of certain imputed costs.

Procedures will be written to collect the data and these procedures will be distributed to key personnel in the systems selected for study. This will enable the participants to gain a greater understanding of our approach.

SELECTION OF REPRESENTATIVE SCHOOL DISTRICTS

We will choose a sample of school districts that is representative of the twenty-four districts in the state. Our selection of a representative sample of public school transportation systems will, to the extent possible, consider the factors of existing ownership patterns, operating conditions, and operating philosophies.

Some of the factors to be considered in selecting the sample districts include:

- Size of system
 - . Number of pupils transported
 - . Number of buses operating
 - . Route miles
 - . Current cost
- Location of system
 - . Rural or metropolitan
 - . Road classifications and surfaces
 - . Density/sparsity
- Type of system
 - . Public only
 - . Private only
 - . Combination of public and private
- Other operating statistics
 - . Miles per hour
 - . Number of trips per bus
 - . Percent of bus capacity used per day
 - . Average investment per pupil transported
- Special programs
 - . Field trips
 - . Scholastic events
 - . Handicapped pupils
 - . Vocational education

The sample will include six of the twenty-four county public school transportation systems, one of which will be the Baltimore city school district's system.

Once the sample systems are selected, we will ask the governor's committee to elicit the cooperation and participation of the key personnel in each of the selected districts. We suggest a general meeting in which we can meet the key representatives of transportation systems selected and give a presentation explaining how the data will be collected, and how the study will be conducted. We will explain the data collection procedures to be used and schedule initial visits to each system.

DATA COLLECTION

Once the sample has been selected and visits have been scheduled, the data collection group can begin its work. The collection of data will be accomplished through the use of carefully designed worksheets and written instructions and procedures.

At each of the sample districts, we will examine cost, operating, and maintenance data to verify their applicability for the study. Our analysis of these data will consider the methods of data accumulation, the levels of detail reported, and the uniformity of reported information among systems to determine the extent to which existing data can be used for the study. Initially, our investigation will be concerned with financial and operating records. We plan to use data in existing records to as great an extent as possible, but we recognize that some data will have to be adjusted to make it comparable, and additional data gathering will be necessary to satisfy the objectives of the study.

We will also examine the detailed records of private contractors and we understand that we will receive their full cooperation.

We will perform the data collection with the independent team, which will include men with extensive experience in bus transportation accounting and auditing, and in cost data collection. We will interview knowledgeable people in school transportation systems, including:

- Public systems

- . School superintendents
- . Assistant superintendent
- . Assistant superintendent of business and finance
- . Director of transportation
- . Assistant superintendent of operations and maintenance
- . Director of purchasing
- . Director of payroll

- Private system

- . Knowledgeable personnel, including the owner/
president and bookkeeper/outside accountant

Our emphasis in cost collection will be to identify the fixed and variable parts of each direct and indirect cost element of the school transportation system. We will review the reasonableness of allocations of indirect costs. Naturally, we will pay particular attention to bus operator labor, bus depreciation, repairs, and insurance, which generally comprise about 90% of operating expenses.

Some of the accounting and other records that we may review to collect cost elements may include:

- Board of Education budget
- Departmental budgets and records
 - . Salaries
 - . Contracted services
 - . Supplies and materials
 - . Other charges
 - . Equipment replacement
 - . Additional equipment
- Special contracts
- Purchase records
- Payroll records
- Equipment utilization records
- Vehicle log sheets
- Maintenance records
- Mechanic time summaries

We will also collect data on taxes, interest costs, salaries, and depreciation to aid us in making adjustments to actual data so that valid comparisons can be made. These adjustments were discussed previously (see Exhibit II).

In summary, cost elements will be collected primarily from accounting records, and verified through interviews with knowledgeable people in each area of study. Data collected will also be verified through a quality control process, performed by experts in the subject matter who will be able to test the data for reasonableness. They will review the data collected for comparability and uniformity. They will also compare the data with other cost data available to us, and, where variances exist, they will attempt to explain and reconcile the differences.

We will obtain the agreement of each contractor on the accuracy of the data collected for his company. That is, we will show him what we have collected, discuss allocations and adjustments to be made, and obtain his agreement or note any differences of opinion. Similarly, we will review the results of our data collection with district transportation personnel.

In addition to collecting cost and operating data from books of accounts and other records, additional data and valuable insights can be gained by actually riding the buses. We will attempt to arrange for the data collection group to ride on selected routes in each district.

When all the data has been collected from the sample school transportation systems, it will be assembled and a data bank will be constructed.

The purpose of the data bank is to make the same consistent, validated data easily available to both the private advocate and public advocate teams. In that way, the positions of the two groups will be comparable on a factual basis, without dispute arising from conflicts in source data.

DATA ANALYSIS AND CASE PREPARATION

Until the data bank is constructed and data analysis begins, the two advocate teams, public and private, will be functioning essentially in an advisory capacity to the data collection group. They will be advising and consulting with the independent team on definition of cost elements and the scope of data collection required. When the data bank has been completed, the independent team will assist both advocate teams in answering questions concerning content and interpretation of costs and other data in the data bank. During this time, the public and private teams will prepare the necessary reports and testimony in support of their positions.

Because the independent team will have been intimately involved in a cross-section of school bus transportation systems, they will be in an excellent position to develop a list of suggestions concerning possible improvements in both public and private systems. Some of the observations noted in performing the data collection may improve managerial efficiency by pointing out operational or administrative aspects of the school transportation systems that could be altered and improved. This list will be a by-product of the study that could lead to lower costs to the the taxpayer for both publicly and privately owned systems.

The independent group will also construct a cost model to be used in evaluating alternative formulas against actual experience. There are many different operating statistics and factors that have been proposed as being relevant to cost. The independent group will examine the various operating statistics and explore the rationale for a model. We expect that the following kinds of operating characteristics will be incorporated into the model:

- Number of stops for boarding/discharging students
- Number of students transported
- Miles traveled
- Average speed attainable between stops considering traffic and terrain

The data for these operating statistics will be collected as part of our data collection effort, and will include actual observations obtained by riding on selected routes.

We believe that we can develop a mathematical model of school bus transportation costs that will reflect the actual costs incurred over a wide range of conditions. Based on that model, we will recommend changes to the present cost reimbursement formula.

Meanwhile, the advocate teams will develop their cases. The output for each advocate team will consist of written documentation and prepared testimony in support of its position on the subject matter. Each advocate team will also engage in adversary discussions to prepare for a presentation to the independent team and the governor's committee.

EVALUATION OF DATA PRESENTED AND PREPARATION OF RECOMMENDATIONS

In evaluating the data presented, the independent team will be assisted by several independent technical advisors, who have not yet participated in the study. This will combine the specific knowledge of the independent team with the objectivity of skilled, but previously uninvolved advisors.

The independent team (including the project partner, project coordinator, and independent technical advisors) will evaluate the testimony presented by the private and public teams. During this evaluation, the independent team may request additional information to answer certain questions that appear unanswered in the testimony. After the final cases and recommendations have been presented by both advocate teams, the independent team will prepare

tentative recommendations and a draft of a final report. The independent team, in preparing the tentative recommendations, will have evaluated the data presented, studied the alternatives, and synthesized the recommendations presented.

The report draft will contain factually based and supportable guidelines and recommendations on whether the public school transportation systems in Maryland should be privately or publicly owned and operated, or a combination of both. In addition, the report will contain a recommendation concerning the adequacy of the current reimbursement formula. Due to the extent of our data collection and analysis efforts, we should be able to suggest revisions and improvements in the reimbursement formula, should any be necessary. Revisions to the formula may be necessary to reflect different percentages, dollars, or factors. The success of the model may influence any revision in the reimbursement formula.

We will discuss the findings and recommendations in the report draft with the governor's committee before preparing the final recommendations and report.

We will also identify the necessary steps to implement our final recommendations for the public school transportation system in the State of Maryland.

PROJECT CONTROL

In managing a project with the breadth of scope and diversity of activities as this study, it is essential that a high degree of coordination and control be exercised over the numerous tasks being performed. Our three-dimensional group approach aids our project control criteria by providing "checks and balances" on the teams. In addition, during the conduct of this study, the project coordinator will be responsible for maintaining effective control over each segment of the study being performed and coordinating segments which are being carried out simultaneously. The project coordinator will be responsible for the following.

Consistency of Terms

All definitions of terms, procedures, and methodologies will be catalogued, and all changes in data element or functional definitions will be made centrally only after determining the effects of these changes on other study segments and coordinating the revised definitions with the appropriate project team members.

Control Over Data Collection

We will maintain initial control over our data gathering effort by insuring that all personnel involved in this function (independent team) are thoroughly briefed on the purposes of the study and the reasons for collecting each piece of data.

During the actual data collection effort, we will take additional steps to insure the reasonableness of the data gathered. This data quality assurance will be accomplished by both spot checks in the field and by statistical quality control techniques. The latter technique, which we successfully used during the field work phase of the airline travel agent marketing cost study (see "Specific Experience"), makes use of the tendency for the cumulative results of data gathering by several groups to cluster within a given range. By plotting cumulative data collection results for each data gathering team onto statistical control charts, we will be alerted to the possibility of inconsistently applied data collection methods if one team's data is consistently different from the cumulative average for all other teams.

Control Over Data Analysis and Case Preparation

The project coordinator and the project partner, as well as the independent technical advisors, will evaluate and analyze the data presented by both advocate teams. In addition, project control over data analysis will be performed by project management in the following ways:

- Reviewing documentation of each step in model building
- Reviewing documentation of financial, cost, and statistical analyses performed and the results obtained from each analysis performed
- Comparing of collected data with our previous experience
- Pretesting of model results with collected data
- Reviewing results of written testimony in the adversary environment of mock hearings

Progress Monitoring

At the completion of each work phase outlined in the approach section, we will be available to present a progress and status report to the governor's committee which will measure results against specific project objectives and to assure that the proper direction is maintained (see work plan).

D E T A I L E D W O R K P L A N

I. Project Planning and Definition of Cost Elements

- A. Meet with governor's committee to clarify project objectives.
- B. Prepare detailed task plan.
- C. Identify all relevant cost elements (real or imputed) by examining:
 - 1. Chart of accounts
 - 2. Reimbursement formula
 - 3. Relevant documentation
- D. Analyze behavior and consider possible adjustments to cost elements to insure cost comparability and uniformity among public and private transportation systems.
- E. Review scope of cost elements and data collection activities with governor's committee.

II. Selection of School Districts

- A. Determine criteria for selecting representative school systems.
- B. Select sample school systems to be studied.
- C. Review and coordinate effort with governor's committee to schedule and secure cooperative participation of selected school systems. Brief school district and contractor officials on study and cooperation requested.

III. Design Data Collection Procedures

- Prepare data collection worksheets, procedures, and data base layout.

IV. Data Collection and Analysis

- A. Visit each selected school district transportation system:
 - 1. Interview appropriate district and/or contractor personnel.
 - 2. Collect available data.
 - 3. Adjust data to provide uniformity and comparability.
 - 4. Evaluate validity of data.
 - 5. Prepare a report describing level of transportation service, basis for determining the level of service, safety statistics, and other noteworthy observations or suggestions.
- B. Construct data bank.

V. Data Analysis and Case Preparation by Advocate Teams

- Analyze data and prepare documented presentation for mock hearings.

VI. Evaluation and Improvement of Cost Reimbursement Formula

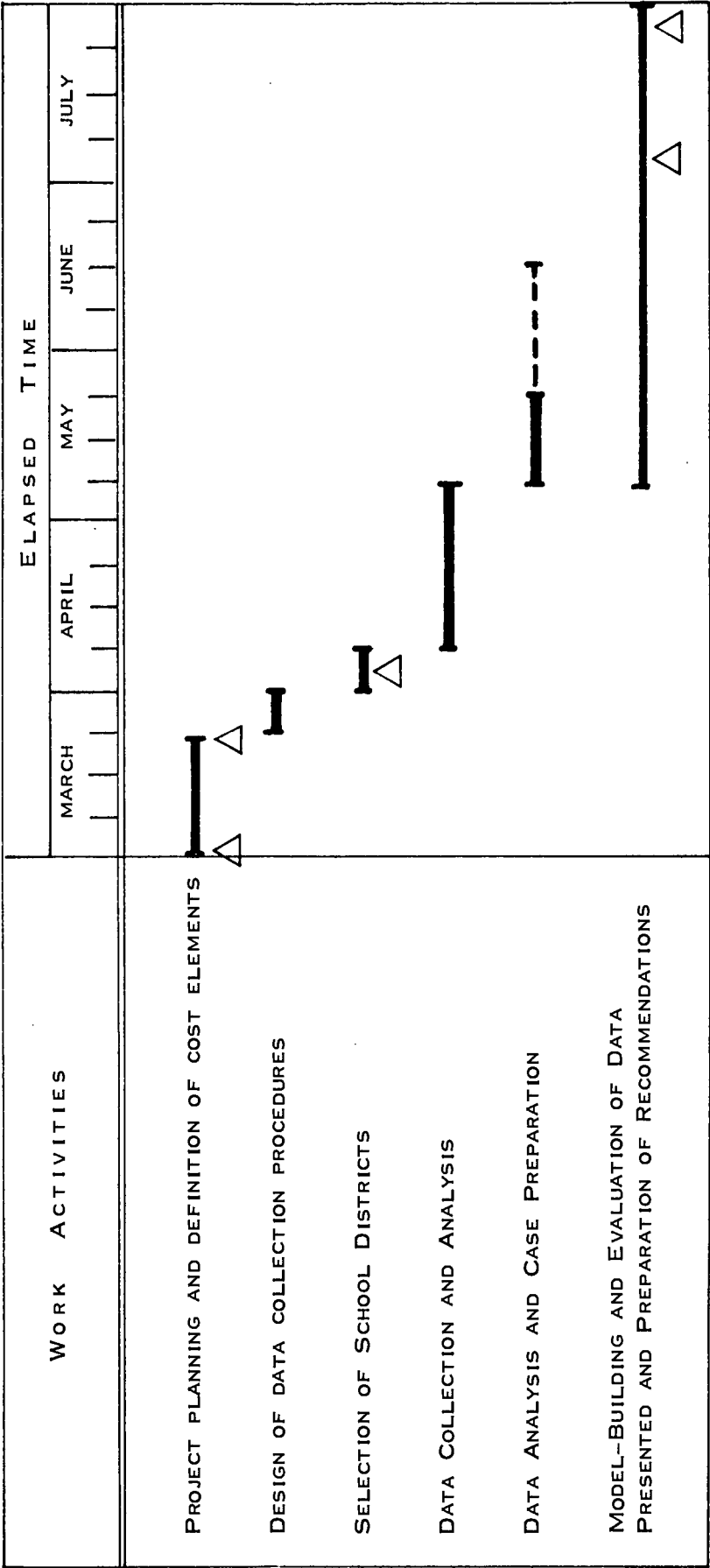
- A. Construct and test a cost model of school bus transportation.
- B. Test the model against collected data and the present reimbursement formula.
- C. Revise, if necessary, the project cost reimbursement formula, and prepare written justification and explanation of the new formula.

VII. Evaluation of Data Presented and Preparation of Recommendations

- A. Present testimony advocating public ownership and private ownership.
- B. Evaluate testimony and prepare tentative recommendations.

- C. Prepare draft of findings and tentative recommendations.
- D. Discuss draft content with governor's committee.
- E. Prepare and present final report to governor's committee.
- F. Participate in not more than three conferences within a six-month period following submission of final report.

DETAILED WORK PLAN SCHEDULE



△ MEETINGS WITH GOVERNOR'S COMMITTEE

P R O J E C T O R G A N I Z A T I O N ,
S T A F F I N G , A N D F E E S

FIRM ORGANIZATION

All technical work is done by members of our full-time professional staff. We do not differentiate between our technical and administrative professionals because all partners and managers in administrative positions must have demonstrated technical excellence in at least two or three functional disciplines prior to attaining their positions. A partner might serve as a technical consultant on one engagement and then serve in an administrative capacity on the next, depending upon the requirements of the engagement.

We have four levels of achievement in each of our professional groups. The qualifications of our professional staff can best be viewed from these four levels.

Partners

Partners are responsible for the management of the firm and the conduct of engagements. Final responsibility for policy, planning, and administrative decisions rests with them. Touche Ross & Co. is structured as one general partnership in the United States.

Managers

Managers represent the second level of management. A manager is responsible to the partners. He is qualified to work and deal with top level client personnel. He may be in sole charge of an office, or play some other vital high management role. He also shares responsibility for the training and development of staff men working under his jurisdiction.

Senior Consultants

The senior consultant is experienced in various phases of business and government consulting, including the planning and supervision of day-to-day tasks. He has the ability to handle several diversified engagements simultaneously.

Associate Consultants

The associate consultant performs the day-to-day tasks required by the engagement. This includes data gathering, data analysis, and other such functions. He has a very important role, because he is closest to the raw data of the situation being analyzed, and astute observations by the associate can add significantly to the success of the engagement.

PROJECT ORGANIZATION

The success of an engagement depends on the staff's ability to satisfy specific requirements of the engagement. Touche Ross & Co. will assign personnel who are skilled in:

- Identifying and collecting relevant cost data
- Analyzing and interpreting transportation cost data
- Analyzing and evaluating educational objectives and constraints
- Testifying in public hearings

Exhibit III illustrates the organizational structure of the Touche Ross staff assigned to this engagement. The staff will be divided into three teams: an independent data collection and analysis team; a private ownership advocate team; and a public ownership advocate team. Each team will be directed by an individual with significant experience in the team area of responsibility who will report to the project partner. The independent team director will also function as project coordinator and have responsibility for coordinating the efforts of the three teams.

Additionally, we will establish a technical advisory board for each ownership advocate group composed of personnel having significant experience in one or more of the skills required to provide assistance and review in this engagement.

PROJECT STAFFING

We intend to staff this project with the following personnel, except in the case of serious illness, accident, personal hardship, or separation from the firm. Additions and substitutions will be made only with the mutual consent of the governor's committee and the project director, Sanford S. Ackerman.

The project management group will be composed of four people: Sanford S. Ackerman, James P. Duffy, Pat A. Loconto, and Milton D. Safane. Their individual areas of responsibility are outlined below.

Mr. Ackerman, a partner in our New York office, will assume overall partnership responsibility for the successful completion of this engagement. He will be in contact with the members of his project management team as well as with the governor's committee. Mr. Ackerman's experience includes:

- Directing cost and marketing studies involving data collection activities similar to that required in this study.
- Building cost made is of business activities.
- Project managing large-scale governmental studies.

Mr. Duffy, a manager in our New York office, will be project coordinator. He will direct the work of the independent data collection and analysis team, and will coordinate the activities of the two expert testifying teams. Mr. Duffy's experience includes:

- Performing cost studies involving data collection and analysis.
- Performing systems and procedure studies for one of the nation's largest school systems.
- Supervising a work measurement and cost division in a large commercial bank.

Mr. Loconto, a partner in our New York office, will assume technical and testifying responsibility for the public ownership team. Mr. Loconto's experience includes:

- Testifying before various federal and state regulatory agencies on return on investment analysis, accounting policies, and utility rate increase requests.

- Directing industry cost studies involving data collection and analysis.
- Performing cost systems evaluation and design.

Mr. Safane, a partner in our New York audit office, will assume technical and testifying responsibility for the private ownership team. His experience includes:

- Testifying before various federal and state regulatory and public service transportation agencies.
- Analyzing competitive bids for performance of school bus service for New York City Board of Education and other school districts.
- Performing bus transportation studies for many companies and agencies, including the New York City Transit Authority and New York State Department of Transportation.

TECHNICAL ADVISORY STAFF

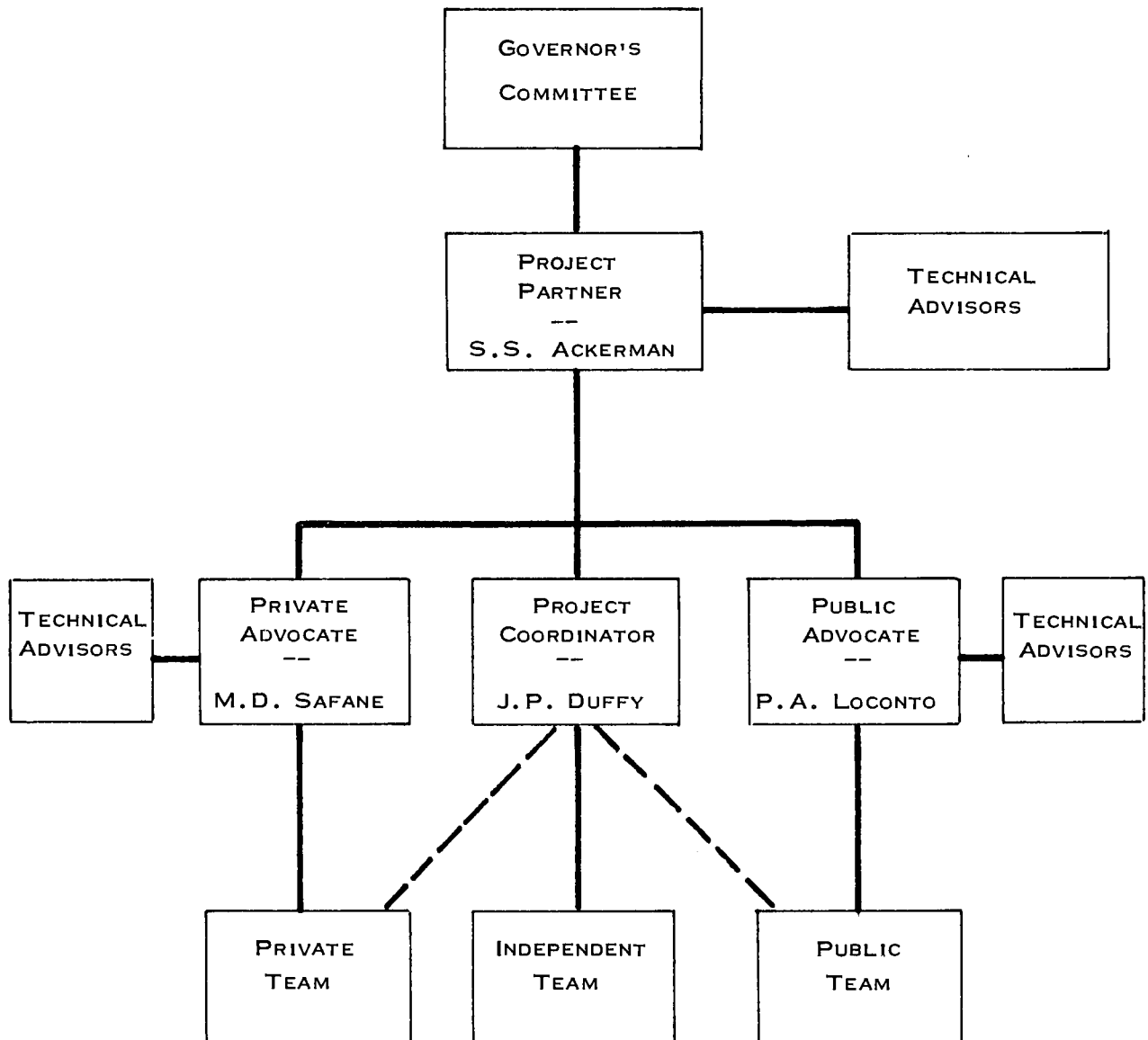
Victor H. Brown, Dennis E. Mulvihill, Arnold Schwartz, and Max F. Sporer will provide technical consultation and review for the project.

Dr. Brown, a partner in our New York Executive Office, is our national director of firm operations. He is an acknowledged expert on rate of return and cost determination matters, and has written, lectured, and testified on these subjects. Dr. Brown recently testified before the Civil Aeronautics Board on the evaluation of industry costs and appropriate rate of return for domestic air carriers.

Dr. Mulvihill, a partner in our New York Executive Office, is national director of consulting services to government and education. He has directed many financial projects for federal, state, and local agencies.

Mr. Schwartz, a partner in our New York Executive Office and national co-director of practice development, was formerly chairman of the transportation services committee for our firm. He has extensive experience in conducting busing studies and testifying before various federal, state, and local transportation agencies.

PROJECT ORGANIZATION



- - - - PROJECT CONTROL

F I R M Q U A L I F I C A T I O N S
A N D E X P E R I E N C E

FIRM QUALIFICATIONS

Touche Ross & Co. is an international public accounting firm which offers its clients a full range of professional services including audit, tax, and management services.

Since our organization in 1947, by merger of several firms that trace their origins back to the early 1900's, we have grown to be one of the largest certified public accounting firms in the world. At the present time, our firm has 189 offices in 45 countries. In the United States, we have offices in 59 cities. Our Executive Office is in New York.

The firm serves a highly diversified group of clients engaged in nearly every field of governmental activity, industries vital to national defense, financial institutions, and other commercial concerns. Numbered among our clients in the United States are some of the top industrial corporations in the country, including many of those listed on the New York and American Stock Exchanges. A high percentage of our consulting business originates with clients we have served in the past.

Our management services work covers a full range of management functions, and is an important part of our total practice. Engaged in management services nationally, our professional staff includes approximately 450 men at various levels. We have served as consultants to management in financial, industrial, and governmental organizations of all sizes, on virtually all types of management problems. To do this kind of work at the level of professional competence we demand, requires people who are flexible and forward-looking, yet practical and thorough in their approach to problem-solving.

Our recruitment practices, training programs, compensation, and personnel policies are designed to find and develop these kinds of people.

The educational backgrounds of our management services staff members reflect the high levels of professional competence required to meet our clients' needs. All of our management services people hold university degrees, over 60% hold master's degrees, and several have doctorates. About 30% of our people are engineers by training, and over 25% are CPA's. With few exceptions, those who are not engineers have backgrounds in either business

administration, accounting, or mathematics. Many have combined undergraduate work in engineering or science with advanced degrees in business administration.

Our staff members have acquired the practical knowledge of day-to-day management and operating problems which is essential for our kind of work from specific industry experience prior to entering the consulting field and from the broad exposure they receive through working on our staff. In addition, many of them obtain further personal seasoning through holding administrative and partnership responsibilities in our own firm.

We consider it our professional responsibility to the clients we serve not to undertake work which we are not fully qualified to perform technically and supervise adequately. For this reason, in expanding our services, we follow the policy of: first, recruiting qualified staff members; next, determining our approach through internal research; then, training our management personnel internally; and, finally, building our internal staff competence through a combination of continued research, formal training programs, and on-the-job training. While this is a slow process, it assures our clients of competent professional help when they engage our services.

The members of our firm have contributed significantly to a wide range of magazines and other periodicals. In addition, they have published a number of books. For example, our approach to financially oriented management information systems, emphasizing the concepts of planning and control, is contained in the book Profitability Accounting for Planning and Control, published by Ronald Press. The author, Robert Beyer, is managing partner of our firm.

John C. Shaw and William Atkins, partners with Touche Ross & Co., have recently co-authored Managing Computer System Projects. This book describes practical and proven guidelines for planning, developing, and implementing data processing systems.

Through the years, the firm has also taken an extremely active part in conducting courses for management. Numerous presentations varying in length from a few hours to several weeks have been staged for such organizations as the American Management Association, National Retail Merchants Association, and the American Bankers Association. In addition, the firm has assisted in the development and teaching of similar courses in conjunction with many major colleges and universities.

Our firm enjoys a fine reputation in the field of transportation. We are proud to number among our clients well over 200 transportation companies. Included among these is the largest bus operation in the United States, the Greyhound Corporation. We have been consulted as advisors by utility commissions and municipal authorities, and we have been involved in developing costs for rate-making purposes and have testified with respect thereto before local, state, and federal commissions. We have also studied the State of California's governmental operations to investigate the practicability of reprivatization.

A representative listing of our transportation clients includes:

- New York State Department of Transportation
- New York Motor Bus Association
- New York City Transit Authority
- Greyhound Corporation
- National City Lines Inc.
- Kansas City Transit Inc.
- Indian-Head Trucking Lines Inc.
- Strickland Transportation Co.
- Pacific Air Freight Lines
- Transamerican Freight Lines
- United Parcel Services
- Canadian National Railway
- Ozark Airlines Inc.
- Southern Airways Inc.
- Commuter Airlines Inc.
- Holland American Lines
- Air Transport Association
- International Air Transport Association

SPECIFIC EXPERIENCE

A description of specific, related experience of Touche Ross & Co. is presented in this section to provide further details of our accomplishments and capabilities.

We have arranged these project descriptions in the following four sections, which represent the functional and industry skills required to perform this project:

- Large-scale data collection and cost analysis
- Education
- Omnibus transportation
- Testimony and other related experience

In several of these engagements, the required skills and technology may apply to more than one section. For example, the ATA/IATA Insurance Study, which is included in the data collection part of this section, involved data collection and cost determination study for the air transportation industry.

LARGE-SCALE DATA COLLECTION
AND COST ANALYSIS STUDIES

Joint Airline/Travel AgentMarketing Cost Study

This was the largest and one of the most widely publicized research efforts ever undertaken in the travel industry. It was sponsored by the Air Traffic Conference of America, the American Society of Travel Agents, The Association of Bank Travel Bureaus, and several individual travel agents. The objective of the study was to measure the cost of marketing domestic air travel for travel agents and the cost incurred by carriers for performing comparable functions. The prime reason for measuring these industry costs was evaluation of the commission rates paid by the carriers to the agents for the sale of domestic air travel.

The study required a massive statistical sampling effort entailing extensive cost analysis and work measurement at each of 400 travel agencies, 300 airline city ticket offices, and 19 carrier home offices. The field work alone required the effort of six men full-time for a year. The study results were used by the Civil Aeronautics Board to evaluate the inter-industry commission structure and led to a modification of that structure on September 1, 1969.

Maryland Council
of Retail Merchants, Inc.

Study of Consumer Credit Costs
in Retail Stores in Maryland

We were engaged by the Maryland Council of Retail Merchants, Inc. to conduct a study of consumer credit costs. The study provided information for the state of Maryland concerning the costs of credit services provided by retailers to their customers, and the relationship between these costs and the service charges which customers pay for these services.

Eighteen Maryland merchants, representing various types of retailing operations and consumer credit accounts, participated in the study. Seven were large merchants operating in the two most populous areas of Maryland - The Baltimore City/Baltimore and Anne Arundel Counties area, and the Montgomery/Prince Georges Counties area, while the remaining eleven represented small retailers. During the study, we:

- Conducted two seminars - one for the large store participants and one for the small store participants outlining the methodology for compiling credit costs.
- Instructed, assisted, and advised each participant during the preparation period.
- Reviewed the data submitted by each participant for consistency and comparability of preparation methods and fairness of presentation.
- Prepared the final study report which incorporates the results for all participants.

National Association of
Electrical Distributors (NAED)

Industry Cost Study

At the beginning of 1969, the National Association of Electrical Distributors (NAED) was concerned about the effect of inflationary economic conditions on the profitability of the electrical distribution industry. Although industry sales were showing a satisfactory growth rate, increasing costs were adversely affecting profits.

The profitability of various products or commodity groups could not be adequately evaluated from existing data. To correct this, NAED retained Touche Ross & Co. to determine the feasibility of obtaining meaningful profit information by commodity group for the electrical distribution industry. Our feasibility report of September 1969 concluded that an industry-wide study of commodity group profitability could be performed.

In January 1970, NAED asked Touche Ross & Co. to perform this industry-wide study. The objective of the study was to assist NAED in evaluating the profitability of commodity groups, by developing the following information:

- Revenue and costs of distribution for thirteen selected commodity groups.
- Average inventory level and turnover rate for these thirteen commodity groups.

The information was obtained from thirteen distributors selected at random from the 1,336 members of NAED. More than 84,000 invoice lines were sampled from the records of the thirteen distributors. For the sample distributors, we used statistical sampling theory to determine the size of the sample (number of invoice lines required to yield acceptable levels of reliability).

The results of the industry cost study are presented in the form of a composite distributor which represents the averages of the results of the participating distributors. The results identify gross profit, net profit, expenses, for warehouse sales and direct sales for the thirteen different commodity groups, representing the more than 15,000 electrical products distributed throughout the country. The results also provide inventory turnover rates and average inventory levels for the sample distributors, as well as return on inventory investment.

ATA/IATA Insurance ProjectCost Determination and
Monte Carlo Simulation

The airlines, by means of their two industry associations, the Air Transport Association (ATA) and the International Air Transport Association (IATA), decided to initiate an insurance company to cover hull and liability losses. Their motivation stems from the expected increase in insurance costs attendant to the arrival of high-capacity aircraft. The company, if implemented on a full coverage basis, would have first-year premiums and initial capital of \$100 to \$200 million. The company's exposure to losses would double within the first five years of operation.

We advised ATA and IATA in many of the phases leading to the formation of the company. Our participation included:

- Evaluation of the general feasibility of the concept of a single-industry insurer.
- Market analysis (top level interviews) to determine the number of airlines willing and able to initiate the company (considering anticipated capital requirements and governmental constraints).
- Development of alternatives for providing the increased insurance capacity at a reasonable cost.
- Financial analysis to determine the capital base and premium level that would yield an acceptable probability of remaining in business.

In the course of discharging these responsibilities, we interviewed the senior management of twenty of the world's largest carriers and designed a computer-based insurance loss forecasting model. Our model was based on the Monte Carlo simulation technique and enabled us to recommend a capital base and premium level that would yield an acceptable probability of remaining in business.

We are currently determining the capital requirements for various forms of reinsurance companies prior to a final airline decision on the company's form and size.

Airline IndustryTicketing Cost Study

We were engaged by a large computer systems firm in the electronic data processing equipment industry to estimate the fare construction and ticketing cost of airlines. The objectives of the study were to determine and compare the costs of alternative ticketing methods under various volume situations and to advise management concerning the feasibility of selling an automated ticketing system.

The scope of the study included visits to over fifteen ticketing locations with time studies of ticketing operations at each of these locations. Other visits were made to airline central reservations offices and accounting offices, for the purpose of cost determination and allocation.

The results of the study provided the managements of both airlines and the computer systems with the projected costs of ticketing for each airline by location. Additionally, we provided the computer systems firm with information to determine the desirability of entering this market by outlining:

- Market potential
- Service specifications
- Airline savings under various conditions
- Non-monetary benefits

Loyola University Medical Center
Chicago, IllinoisCost Finding and Chart of
Accounts Development

We assisted Loyola University with the planning and development of a new medical center. The scope of our assistance included the preparation of a new chart of accounts and the establishment of a cost finding system.

The design of the chart of accounts included the designation and description of each hospital and medical center cost center. To the extent possible, costs were distributed directly to cost centers. The chart of accounts was designed to the levels of detail necessary to provide management information as well as custodial accounting information. The documentation of the chart of accounts consisted of complete descriptions of each cost center and each account designation. As part of the chart of accounts work, we also provided advice on the development of the accounting systems necessary to support the accounting and information requirements.

The development of the cost finding techniques included the preparation of the detailed procedures for allocating the costs of support services to the revenue producing departments. We defined the allocation bases to be used and the techniques to be used to gather the statistics required for allocation purposes. We periodically met with the Medicare intermediary to obtain approval of the allocation bases as well as the cost finding techniques. During meetings with the intermediary we also obtained approval of the specific costs to be distributed directly to cost centers and those to be allocated to cost centers.

EDUCATION

Philadelphia
Board of Education

Financial and Management
Organization Evaluation

City Council of Philadelphia has retained Touche Ross & Co. to conduct an investigation of the Board of Education's organization, operations, management effectiveness and financial management practices. The objective of the investigation is to identify ways of improving those practices in the future.

Field work and fact-finding for the project has been concentrated in three areas:

- Reviewing and evaluating the Board's internal management systems.
- Examining the Board's relationship to other organizations in the educational field.
- Reviewing similar services performed by the City of Philadelphia and the School Board.

In performing the review and evaluation of the Board's internal management systems, the organizational elements responsible for the following functions have been analyzed.

- Planning, forecasting needs, identifying goals, setting objectives to achieve goals, and developing programs to accomplish objectives.
- Setting policies and standards, delegating authority, and allocating resources to implement the programs defined.
- Directing programs by communicating with assigned resources and through coordination of the organization.
- Evaluating performance, measuring progress toward objectives, and redirecting efforts as required.

Detailed field investigations have already been conducted in the following areas:

- organizational structure
- transportation services
- maintenance and food and services
- capital program
- procurement, warehouse, and inventory procedures
- instructional operations department
- data processing operations
- federal fund use

The field investigation in transportation services covers:

- scheduling
- utilization
- operating and maintenance cost analysis
- reimbursement formula
- safety
- leasing and purchasing
- operating statistics

The project team is currently analyzing the data collected and preparing recommendations. Final output will consist of verbal presentations, publication of a project report, and participation in city council hearings. The study will be completed in March.

New York City
Board of Education

Analysis of Competitive
Bus Service Proposals

The New York City Board of Education engaged Touche Ross & Co. to analyze competitive bid proposals from private bus contractors to provide school busing service for school districts within New York City. This engagement involved determining realistic costs of providing busing service for specific routes, and then analyzing private contractor proposals to provide bus service for these routes. The determination of busing costs involved identifying all real and imputed costs of service, collecting costs and operating statistics, and then calculating the total cost of providing bus service for specific bus routes. Cost elements analyzed and quantified included operator, dispatcher, mechanic, and administrative salaries, insurance, depreciation, bus salvage value, garaging, operations, repairs, taxes, and administrative expenses.

Using the costs we had determined as a standard of comparison, we analyzed each of the competitive bids to determine the contractor's ability to provide economical yet safe and quality service in its selected routes.

State of Florida
Subcommittee on Efficiency
in Education

Review of K-12 Education
System

We were engaged to conduct a review of the Florida Education System (kindergarten through twelfth grade) which covered organization, personnel, management, and operations. This study involved both the State Department of Education and the local school districts.

In the course of our review, we attempted to obtain a cross section of viewpoints and information about educational developments in Florida and other parts of the U.S. To do this, we met with Florida Legislative Subcommittees, members of the Department of Education, top administrative personnel in the local districts, interested parties in the Florida Education Association, and members of the executive branch of the state government. We also investigated organizational innovations in the departments of education of various other states.

With this background, we prepared a report on the Florida K-12 educational system which recommended several projects which, we felt, were necessary to improve operational efficiency and insure continued quality in the educational system.

Dayton Board of Education

The purpose of the project was to improve the financial controls of the payroll system by revising the manual operating procedures and computer programs. This involved some computer systems modifications, forms design, paperwork flow re-routing and organizational responsibilities revisions. In essence, the changes incorporated converted the system from exception basis reporting (negative reporting) to a positive basis payroll system.

City of Detroit
Detroit Board of Education

Long Range Planning

Touche Ross & Co. was engaged by a citizens advisory committee to evaluate the future needs of the City of Detroit school system. Our assignment was to predict the requirements for various support services, including data processing, over a five-year period. We accomplished this and in addition several recommendations for improvements in handling services were made. The report was used to help justify a \$90,000,000 bond issue.

State of Colorado
Board of Community Colleges

Preparation of Manual on
Accounting and Budgetary
Procedures

The Colorado community colleges initially operated under the accounting procedures intended for Colorado public school districts. When a state system of community and technical colleges was established, the business managers felt that operation under the public school district procedures was not appropriate to the new state system requirements for the community colleges.

Touche Ross was selected to prepare a manual which would provide an accounting and budgetary framework which could be used successfully by all Colorado community colleges by meeting their individual needs as well as complying with government requirements. The finished manual included a summary of organization responsibilities of agencies and departments related to the colleges, a chart of accounts, budgetary procedures, an explanation of state budgeting and accounting requirements, guidance for general ledger organization, and a summary of internal financial reports.

City of Buffalo, New York
Board of Education

Computer Feasibility Study

We were retained by the City of Buffalo Board of Education to survey its purchasing, accounting, payroll, and audit functions, and to prescribe feasible computer applications. This survey consisted of a comprehensive review of the existing encumbrance accounting system and procedures for distributing costs to the appropriate fund, school, or government project.

Based on this survey, we specified financial information needs, determined the data integrity of existing accounting and financial systems, evaluated equipment and personnel capabilities, designated appropriate computer applications, and recommended improved manual systems for certain operations.

College Entrance Examination Board
Princeton, New Jersey

Financial Aid
Computer Model

Touche, Ross was engaged by the College Entrance Examination Board to design and program a financial aid model which will be used by financial aid administrators of schools and colleges in decisions on the distribution of financial aid. The purpose of this computer-oriented model is to maintain a file on the types of students receiving aid, the amount of aid received, and a means of determining the kinds of students who do best with or without financial assistance. Based on such data, formulas can then be developed for the granting of financial aid.

Seattle Public SchoolsFiscal Practice Review

We recently completed an engagement for the Seattle School District to provide them with a comprehensive review of fiscal practice. Our recommendations included the following areas: salary administration, purchasing, warehousing and supply management, facilities management and funding, insurance management, accounting and financial reporting, and budget planning and reporting.

Additional educational experience is highlighted below:

- | | |
|---------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| St Clair Shores School District
Michigan | <ul style="list-style-type: none">- Business Operations Audit- Program Budget Preparation- Long Range Planning - Operation Forecast and Budget Preparation |
| Salem School District
Oregon | <ul style="list-style-type: none">- Funds Management Audit- Organization Planning |
| Star Commonwealth School | <ul style="list-style-type: none">- Business Area Organization Audit- Total Accounting System Design and Implementation- Personnel Evaluation and Selection |
| Palos Verdes State College | <ul style="list-style-type: none">- Feasibility Study for Automating Administrative Procedures- EDP Equipment Solution |
| University of Washington | <ul style="list-style-type: none">- Automated Payroll - Personnel System Design and Implementation- General Consultation to the Vice President for Business and Finance- Student Housing Study- Study of Organization and Internal Reporting Systems of the Vice President for Business and Finance- Various Projects |

OMNIBUS TRANSPORTATION

New York City Transit AuthorityAnalysis of Bus
Route Profitability

We conducted a study and made recommendations relating to the profitability of bus routes operated by several bus carriers. The study included collecting, analyzing and comparing revenues and cost for bus routes operated by the New York City Transit Authority, including those of its predecessor, the Board of Transportation, and the routes operated by privately owned bus companies serving New York City.

New York Motor Bus AssociationCost Allocation
Formula

We were engaged by the New York Motor Bus Association to assist them in the development of a formula for participation by the State of New York and its cities and counties with privately owned bus companies for the purchase of buses. This study involved identifying cost elements related to bus purchases, operations and maintenance, and developing a formula to evaluate the costs and revenues for servicing particular geographical areas.

Financial Analysis
and Management
Assistance

Cheetah Charter Bus Service

The Ford Foundation has retained Touche Ross & Co. to analyze and to assist one of its new investments, the Cheetah Charter Bus Service. The objectives of this engagement have been to assist in determining the economic and financial feasibility of the transportation operation, to design and install financial systems and controls, and to provide accounting assistance and managerial advice until proper personnel have been hired and trained.

The first phase of this engagement has included preparing cash flow projections and evaluating cash receipts and disbursements. The second phase has included designing, implementing, and initially assisting in operating a bookkeeping system, and assisting in the monitoring of operations and interpretation of all reports.

Detroit Street RailwaysSystems Review

An intercity bus transportation company asked us to undertake a review and evaluation of their purchasing and inventory control methods, and reporting system; and a measurement of their level of service.

In handling the scheduling aspect of the project we had to overcome problems peculiar to this type of transportation industry, such as the specification of maximum and minimum service levels for main and feeder lines and the reporting on actual service levels by utilizing present inspectors and proposed radio systems.

We recommended methods changes to reduce paper work through reassignment of responsibilities and to introduce a formal inventory control system, the use of operations research techniques for solving their scheduling problems, and the mechanization of certain reports and records to reduce clerical work and improve the quality and timeliness of management information.

Improved customer service, which was the main goal of this company, resulted from the application of our recommendations. In addition, our recommendations in purchasing and inventory control methods produced annual savings which more than paid for the projects.

TESTIMONY AND OTHER
RELATED EXPERIENCE

Bureau of Economics
Civil Aeronautics Board

Preparation and Presentation of
Rate of Return Testimony

Touche Ross & Co. conducted a study, made recommendations, and presented testimony before the CAB concerning a fair rate of return on investment for domestic air carriers. The study included determination of quantifiable measures of business and financial risk, comparison of risks facing different industries to the return on investment earned by these industries, examination of historic costs of capital for air carriers, projection of new debt and equity costs in the future, and analysis of general economic factors for both the air industry and general economy. Our testimony and recommended fair rate of return were adopted by the Bureau of Economics of the CAB.

State of Florida
Public Service Commission

Evaluation of Requests
by Telephone Companies
for Rate Increases

We were retained by the Florida Public Service Commission to assist the legal, engineering, and accounting staffs in evaluating the testimony and evidence presented in requests by two telephone companies for intra-state rate increases. We prepared presentations and exhibits on all aspects of the rate-of-return question with objective recommendations for the Commission's decision.

The scope of the engagement included analyzing the companies' income statements and balance sheets, checking the testimony and exhibits of witnesses testifying in behalf of the companies, evaluating the efficiency of their managements, and recommending to the Public Service Commission's General Counsel questions to be asked of the companies' witnesses during cross-examination.

The study also involved calculating the companies' cost of capital as well as a critique of the current regulatory procedures for determining a fair rate of return that a utility should be allowed to earn. Included in the analysis was the determination of current and probable future costs of equity and debt to the companies, as well as an assessment of economic conditions which affect the companies.

State of Idaho
Public Utility Commission

Evaluation of Utility
Companies' Requests for
Rate of Return Increases

We were engaged by the Public Utility Commission of the State of Idaho to evaluate companies' requests for rate increases. Our work for this commission included separate analysis of electric utility cases, two gas company cases, and one case involving a telephone company in which we determined a fair rate of return and prepared analyses of the companies' testimony. As a result of these engagements, we represented several state utility commissions in a major case before the Federal Power Commission.

New Jersey Public
Utility Commission

Evaluation of Electric
Utilities' Requests for
Rate of Return Increases

We analyzed and presented testimony in the rate of return proceedings involving Jersey Central Power and Light and New Jersey Power and Light before the New Jersey Public Utility Commission. The study and testimony concerned normalization procedures and the validity of various rate base components.

A Large Public
UtilityEconomic Analysis of Government Investment
in Commercial-Industrial Activities

We were engaged by a large public utility to make a study of the factors to be considered in determining whether government investment in a commercial-industrial activity is available from the private sector of the economy. The study emphasized methods for measuring cost of capital and financial worth which are both sound in economic theory and useful for practical applications. The study dealt extensively with methods of determining returns on investment and rates of return. In the last stage of the study, we were asked to testify as expert witnesses before a public commission concerning the substance of our report.

A Large Telephone
CompanyReturn on Investment Analysis
for Lease-or-Buy Decision

Touche Ross & Co. was engaged by a large telephone company to assist the owner of a radio station in deciding whether to lease some equipment from our client or purchase it from other sources. We were asked to prepare statements of net earnings over the next twenty years for each alternative, and to use discounted cash flow techniques to determine the return on investment. We developed financial statements reflecting the purchase decision and two leasing plans offered by the utility company.

We found that the return on investment would be virtually identical under the two alternatives. This fact implicitly established the superiority of the lease alternative, since this course of action would enable the station owner to preserve his entrance to the capital market.

State of CaliforniaStudy of Governmental
Operations for Transfer
to Private Enterprise

We were asked to investigate the practicability of "reprivatization", the concept which suggests that certain functions performed by government can be carried out more economically and effectively in the private sector. Our first objective in testing "reprivatization" at the state level was to formulate a sound basis for classifying governmental operations according to suitability for sale or subcontract to the private sector.

Five principal criteria were selected to determine suitability of transfer. Such suitability was substantiated if (1) it was easy to separate the operation from others performed by state personnel, (2) it involved providing a specific service to identifiable groups of people, (3) it was a measurable operation, i.e., if practical performance standards could be set and it would be practical to determine financial effectiveness, (4) the selling or subcontracting of the operations would not involve major job displacement and pension costs, and (5) the transfer would not interfere with the basic established functions of government.

One hundred thirty-eight units of government, comprising 55% of the State Operations Budget, were analyzed according to the above criteria. An empirical formula was developed for this purpose to insure consistency.

As a result of this analysis, we identified 21 activities as clearly suitable for sale or subcontracting, 75 which appeared suitable but for which we anticipate major problems in effecting a transfer, and 42 which appeared unsuitable for transfer.

We next surveyed 20 states to determine the extent to which governmental operations are subcontracted or removed to the private sector, and found that this is done on a consistent but limited scale. There was a great deal of interest in the California project and numerous requests for information on its outcome were received during the polling.

Our report concluded by noting that present interpretations of the article of the state constitution concerning Civil Service would block transfers of the sort contemplated, although our study indicates that the effect on Civil Service positions would be negligible. We emphasized that in any event appropriate changes would need to be made before California could transfer any state operations.

We suggested the formation of the Government Operations Review Commission, if the constitutional obstacles are removed, to determine the extent to which the private sector should be utilized.

State of California
Human Relations Agency

Design of Formula for
Reimbursing Facilities
for the Mentally Retarded

We were asked by the Human Relations Agency of the State of California to design a formula for reimbursing residential care facilities for the mentally retarded. The facilities covered included both profit and non-profit institutions.

We examined a variety of formula alternatives for their impact on state expenditures, patient care, and state control. Simulation techniques were used in the evaluations.

The formula which we developed provided reimbursement commensurate with benefits actually received by the patient and gave the state considerably greater control over the cost and quality of patient care.

Subsequently the Agency retained us to carry out preliminary testing of the formula. A sample of 28 facilities was selected which contained many variables; bed capacity ranged from 5 to 175; two focused on the physically handicapped; three were partly nurseries; and one was exclusively an adult residence.

Reporting forms and instructions were mailed to each facility and we then toured the homes in the sample. The primary aim of the field audit was to review the data requests and reporting procedures with administrators, to solicit information concerning possible improvements and special considerations relating to the formula.

Following completion of the visits, we analyzed formula values and the data collected, and made several adjustments and additional recommendations. Key assumptions were made with respect to owner-operator salaries and the rate of return. A detailed report of our findings was presented to the Human Relations Agency.

Personnel Resumes

The appendix contains detailed resumes of these personnel and the representative staff members to be assigned to the project teams. Although we cannot presently identify the specific consultants to be assigned to this project, no assignment will be made without the agreement of the governor's committee.

Resume of: SANFORD S. ACKERMAN

Present Position: Partner, Management Services
Touche Ross & Co.

Firm experience includes:

Planning, Budgeting, Accounting and Management Reporting:

- Study of Department of Defense budget review procedure including analysis of procedures and design and implementation of computer-aided review procedure.
- Preparation of cost studies, budgets, PERT networks, and line-of-balance reporting system for large state agency.
- Design and installation of flexible budgeting and management reporting for a precision manufacturing and metal-working company.
- Design and installation of cost accounting system for U.S. Department of Labor and three state employment agencies.

Inventory and Production Management:

- Design and installation of computer forecasting, production and inventory control systems, including simulation of the inventory system for soft goods, and aircraft and missile job shop manufacturers. Design and development of a production line balancing system with a major automobile manufacturer.

Data Processing Planning and Design:

- Economic study, system design, and implementation of computer applications in numerous government and industrial engagements. Design and implementation of on-line real-time order entry system.

Simulation:

- Computer simulation of inventory management, production scheduling, urban renewal models, queue networks, and business games. Large-scale business simulation; introduction of business and accounting systems into simulation of a manufacturing company. Simulation of real-time, man machine system for business application.

Resume of:
(cont'd)

SANFORD S. ACKERMAN

Statistical Sampling:

- Statistical sampling for Air Force inventory management study, sampling of retail accounts receivable for tax purposes, design of industrial experiments.
- Sampling designs for analyses of large files in conjunction with systems design studies, and design of a statistical quality control procedure for acceptance of data keypunched by a vendor.

General:

- Mayor's Committee for Community Renewal, Detroit: Management planning, statistical analysis, simulation of redevelopment and conservation programs, design and implementation of Social Data Bank System. Office of Local Government Services, State of New York: Design and implementation of OLG Data Bank. United Progress, Inc. (Trenton, N. J. anti-poverty program): Management planning, basic systems design. New York State Identification and Intelligence System: Design and implementation of manual and computer subsystems for criminal identification and intelligence.

Education:

University of Delaware - B.M.E., Mechanical Engineering, with honors.
University of Delaware Graduate School.
Cornell University - M.S., Industrial Engineering.

Military:

United States Army - 1954 - 1956
Counter Intelligence Corps.

Publications,
Presentations
and Patents:

"Symbolic Logic: A Summary of the Subjects and Its Application to Industrial Engineering," Journal of Industrial Engineering, September-October 1957.

"Even-Flow, A Scheduling Method for Reducing Lateness in Job Shops," Management Technology, May 1963.

"Effects of Planning and Control on the Lateness of Jobs in a Job Shop," Air Force - Rand Depot Scheduling and Control Conference, December 1, 1964.

Resume of:
(cont'd)

SANFORD S. ACKERMAN

"Simulation of Social Action Programs," International Federation for Information Processing, IFIP Congress 65, May 25, 1965.

"Statistical Sampling in Retailing," Frederick Atkins Controllers Congress, Houston, May 21, 1965.

"Business Management Methods in Social Action Programs," TRB&S Quarterly, Spring 1965.

Numerous seminars, speeches, and presentations to technical and interest groups.

A patent for a basic vibration damping mechanism for jet engine compressor blading, assigned to Westinghouse Electric Corporation.

Societies:

The Institute of Management Sciences.
American Statistical Association.
Operations Research Society of America.
Tau Beta Pi, Engineering Honorary Society.
Phi Kappa Phi, Scholarship Honorary Society.
Omicron Delta Kappa, Service Honorary Society.

Resume of: PAT A. LOCONTO

Present Position: Partner, Management Services
Touche Ross & Co.

Firm experience includes:

Federal Government

- Return on investment analyses for Civil Aeronautics Board by submitting testimony and exhibits recommending a fair rate of return for the domestic air carriers.
- Design, development, and implementation of an integrated, computerized obligation and cost accounting system at the federal and state levels for the U.S. Department of Labor, Bureau of Employment Security. The system included appropriation, accrual, property and cost accounting, and implementation of computer programming.
- Design and implementation of an automated budget review and reporting system, and expenditure forecasting model for the U.S. Department of Defense.

State Government

- Return on investment analyses for state public utility commissions in evaluating three utilities' requests for rate increases. Testified before utility commission on electric company's request for an increased rate of return.
- Implementation of federal computerized and manual accounting and reporting systems in various state agencies.
- Training of state personnel in accounting system implementation and operation.
- Evaluation of state machine and personnel capabilities to install and operate new accounting and reporting systems.

Circulation Industry

- Design and implementation of management reporting system for major circulation and subscription company.
- Marketing evaluation studies for major magazine distributor including single copy and school plan distribution.

Resume of: PAT A. LOCONTO
(continued)

Credit Card Industry

- Design and implementation of top level management reporting system for major credit card company aimed at improving the timeliness and quality of management reports.
- Evaluation of accounting and operations control for various segments of large credit card company.

Travel Industry

- Design of a uniform accounting system for franchise travel agencies.
- Evaluation of accounting control and reporting system for franchise travel agencies.

International

- Italy: organized and conducted field trips for top executives of various Italian companies designed for training in U.S. management techniques.
- Spain and Italy: evaluated potential and installed management control systems for large consulting practice in Spain and Italy.

Other

- Market research: questionnaire design for market evaluation for special computer equipment and services for large computer manufacturer.
- Family held business: conducted research and seminars on growth problems of family held businesses.

Previous Experience: General Foods Corporation
Maxwell House Division (8 years)

- Associate Division Accounting Manager: responsibilities included manufacturing cost analysis, design of direct costing system and of inventory control procedures, internal audit control program, general accounting, and investment analysis for the division.

Security: "Secret" clearance

Resume of: PAT A. LOCONTO
(Continued)

Education: Columbia College, Columbia University; AB,
Liberal Arts

Presentations: American Management Association - Chairman, Family
Held Business Seminar, "Solving Growth Problems
in the Family Held Company."
Ninetieth Congress - Hearing before a subcommittee
of the Committee on Government Operations, House
of Representatives, "A Review of Labor Department
Accounting Systems."

Resume of: MILTON D. SAFANE

Present Position: Partner, Audit Department
Chairman of the Transportation Committee
Touche Ross & Co.

Firm experience includes:

Management of cost studies, budgets, and procedures for major transportation organizations:

- Analysis of competitive bid proposals for performance of school bus service for New York City Board of Education and other school districts.
- Analysis of bus routes profitability for New York City Transit Authority.
- Assistance to New York State Department of Transportation on the development of a fare structure and a subsidy formula for privately owned bus companies.
- Analysis of proposed transfers of bus routes between privately operated companies.
- Testimony before New York State Public Service Commission, New Jersey Board of Public Utilities Commission, and the Interstate Commerce Commission relating to fare structure for bus operations, and acquisition, transfer, and abandonment of bus routes by carriers.

Education: Cornell University, B.A.

Publications and Presentations: Contributor to The Encyclopedia of Cost Accounting on Motor Carrier Transportation, Prentice-Hall

Speaker at the 1965, 1968, and 1969 annual meetings of the National Accounting and Finance Council on Matters of Interest to Motor Carriers

Professional: American Institute of Certified Public Accountants
Chairman of its Interstate Commerce Commission Committee

New York State Society of Certified Public Accountants - Former Chairman of its Committee on Land Transport Accounting

Metropolitan Society of Motor Carrier Accountants - Past President

National Accounting and Finance Council

Resume of: JAMES P. DUFFY

Present Position: Manager, Management Services
Touche Ross & Co.

Firm experience includes:

- Bank credit systems: Supervised the design and implementation of processing procedures for a major interbank credit card system. Designed and installed accounting and control systems, including reports, for the installment loan functions in three medium-sized commercial banks.
- Profit improvement and cost reduction: Achieved a 20% annual cost reduction for a large commercial finance company. Through analysis and adjustment of manpower and fixed asset requirements, effected immediate profit improvements for several banks, and for a manufacturer of large blast furnaces.
- Mergers and acquisitions: Assisted clients in the clothing, furniture, and publishing industries in defining acquisition strategies, and in identifying and analyzing acquisition candidates.
- Bank information systems: Supervised the design and installation of profit planning, operational budgeting, management reporting and accounting systems for three commercial banks and one savings bank. Also assisted management in the effective use of these systems.
- General systems and procedures: Supervised all phases of the installation of a wide variety of financial and operating systems for banking, retailing, manufacturing, publishing and school system clients. Systems included general accounting, payroll, order entry, cash control, internal audit, demand deposit, proof and transit, manpower scheduling and work measurement. Clients included a large New York retail chain and one of the nation's largest school systems.
- EDP systems: As an adjunct to the above systems work, designed computer systems, including flow charts and documentation. Evaluated and selected computing equipment, and supervised conversions.

Resume of:
(cont'd.)

JAMES P. DUFFY

- Marketing: Identified markets and defined marketing strategies for a major magazine publisher. For a large drug and variety chain, restructured product presentation and shelf facings after a study of traffic patterns and customer profiles.
- Organization planning: In connection with various consulting engagements, designed organization structures, defined specific staffing and manpower requirements, and in some cases, recruited management personnel.

Previous
Experience:

Toga Group, Inc. (formerly Management Services Division, Shareholder Capital Corporation), Vice President

- Pre-investment analysis: Performed thorough operational reviews of companies which were candidates for private placements or venture capital investments. At the completion of each review, prepared a written recommendation on whether the investment should be made. When investments were recommended, defined negotiation steps and listed potential risk areas for monitoring.
- Monitoring of operations: Provided direct management input to monitor and correct problem situations in the portfolio. Conducted "work-out" negotiations with banks and other creditors which led to a successful recapitalization.
- Review of bank transfer agency operations: In response to action taken by the Securities and Exchange Commission, performed an in-depth operating review of the mutual fund transfer agency function of two large commercial banks. Translated results of these reviews into corrective steps to improve operations at both banks. The implementation of these corrective steps led to immediate favorable action by the SEC, in some areas, and formed a basis for constructive negotiations on other points.

Bankers Trust Company, Work Measurement Division

- Supervisor: Supervised the development of work standards and standard costs for labor control. Assisted budgeting and long-range planning personnel in integrating standard costs in the planning process.

General Motors Corporation, Chevrolet Division

- Trainee, accounting management program.

Military:

U.S. Marine Corps
- Major

Education:

Iona College, B.A. in Economics
New York University, Graduate School of Business

Resume of: MAX F. SPORER

Present Position: Director of Operations - Management Services
Touche Ross & Co.

Firm responsibilities include:

New York Partner in Charge of Consulting Services;
- Responsible for the consulting activities of over 50 professional consultants. Project responsibility includes projects for corporations and industries involving financial planning and control.

Significant engagements include:

- Partner in charge of projects with the Florida Public Service Commission to evaluate the economic testimony of witnesses for two telephone companies seeking rate increases.
- Partner in charge of an industry-wide study to determine the comparative costs of marketing domestic air travel for travel agent industries. The study served as a basis for negotiations leading to a commission increase for travel agents.
- Partner in charge of an international airline association study to determine the feasibility of establishing an industry-owned mutual insurance company.
- Partner in charge of a nation-wide study to compare the cost of department store credit extension and collection with the service fees charged to credit customers. The study established that cash customers are subsidizing credit customers.
- Analysis of indirect and direct cost behavior of seven major aerospace companies for the National Aeronautical and Space Administration to enable its management to predict the cost impact of program acceleration or deceleration strategies.

- 2 -

Resume of:
(Cont'd.)

MAX F. SPORER

- Partner in charge of pre-acquisition studies involving clients in the printing and travel industries. Studies were used as a basis for negotiations by both parties involved in the merger.
- Project manager of an economic study of a proposed three-hundred unit retirement home, including over-all return on investment, fee structure development, cash flow forecasting, assistance in obtaining F.N.M.A. financing and the design and implementation of accounting systems.

Industry experience includes:

- Manufacturing (aerospace, garment, chinaware, luggage), federal government, food processing, electrical supplies distributors, banking, retailing, health and casualty insurance, nursing homes, printing, tour operators and travel agents.

Previous
Experience:

Glen Manufacturing, Inc. (presently division of Jack Winter, Inc.) Milwaukee, Wisconsin.

- As assistant controller, was responsible for the installation of a profit planning and control system, demonstrating its use in managerial decision making.

Education:

University of Wisconsin

- B.B.A and M.B.A. in Accounting and Statistics.

Publications:

Chairman of seminars on the evaluation and use of Return On Investment Techniques before various organizations including:

- American Management Association
Budget Executives' Institute
Stanford Graduate School of Business
Fairleigh Dickinson University
University of Wisconsin Management Institute

Professional:

Certified Public Accountant - Wisconsin
- California
- New York
American Institute of Certified Public Accountants
New York Society of Certified Public Accountants
Phi Beta Kappa

Resume of: ARNOLD SCHWARTZ

Present Position: Partner, National Co-Director of Practice Development
Past Chairman of the Transportation Committee
Touche Ross & Co., Executive Office

Firm experience includes:

Audit partner responsible for the management of various engagements including major operators in the trucking and busing industries:

- Testimony before New York State Public Service Commission and the Interstate Commerce Commission relating to fare structure for bus operations, and acquisition, transfer, and abandonment of bus routes by carriers.
- Analysis of competitive bid proposals for schools bus service for New York City Board of Education and other school districts.
- Analysis of bus routes profitability for New York City Transit Authority.
- Assistance to New York State Department of Transportation on the development of a fare structure and a subsidy formula for privately owned bus companies.
- Analysis of proposed transfers of bus routes between privately operated companies.

Education: Lehigh University, B.S.
Brooklyn Law School, LL.B.

Publications and Presentations: "Audit of a Motor Carrier," Prentice-Hall
Speaker and Writer of articles for various groups in The Trucking Industry.

Professional: National Accounting and Finance Council
American Institute of Certified Public Accountants
Interstate Commerce Commission Practitioners Association
New York State Society of Certified Public Accounting

Resume of: VICTOR H. BROWN

Present Position: Partner-National Director of Operations
Touche Ross & Co.

Responsible for day-to-day operations of domestic Touche Ross & Co. offices. Further responsibility embraces firm-wide financial and administrative affairs including the Firm Information System. Responsibilities further include immediate direction of specific client projects. Consulting experience has been with manufacturing, retail, governmental, and service organizations and has covered various management and economic problems, including conduct of economic studies and the design and installation of financial control systems, management information systems, and organization studies. Testified for the Civil Aeronautics Board as to the rate of return for domestic air carriers.

Previous Experience: University of Buffalo - Chairman of Accounting Department, Associate Professor of Accounting
City of Philadelphia - Internal Auditor, Bureau of Audits
University of Pennsylvania - Instructor of Accounting
Accountant with Philadelphia accounting firm

Education: University of Pennsylvania, B.S. Accounting, Economics
University of Pennsylvania, M.B.A. Industrial Management
University of Buffalo, Ph.D. in Economics

Publications: "Return on Investment as an Active Management Tool," a chapter in Retail Control (National Retail Merchants Association).
"Profitability Rate" and "Profit Performance Standards," two chapters of "Profit Goals and Capital Management" by John F. Childs.
"Economic Analyses of Government Investments in Commercial-Industrial Activities," study done for major telecommunications company.
"Rate of Return: Some Comments on its Applicability in Capital Budgeting," Accounting Review, January 1961.
"Using Cost Information to Advise Management," co-author with G. M. Boni, two chapters in Accountant's Encyclopedia, Prentice-Hall, 1962.
"What the Credit Manager Should Know About Financing Receivables," chapter in the Credit Management Yearbook, NRMA, 1963-1964.

Resume of: VICTOR H. BROWN
(continued)

Presentations: Speaker on management, marketing, and accounting problems before various organizations including American Management Association, National Association of Accountants, Systems and Procedures Association, New York State Society of Certified Public Accountants, trade conventions and privately sponsored financial seminars. Chairman of various American Management Association seminars.

Licenses: C.P.A. in states of New Jersey, New York, and Pennsylvania

Societies: American Institute of Certified Public Accountants
Pennsylvania Institute of Certified Public Accountants
New York State Society of Certified Public Accountants
American Accounting Association
American Finance Association
National Association of Accountants

Resume of: DENNIS E. MULVIHILL

Present Position: Principal - National Director of Consulting Services to Government, Education and Health Care
Touche Ross & Co.

Firm experience includes:

National responsibility for consulting services to government, education, and health care clients. Directly engaged in projects dealing with the following areas:

- . Long-range planning studies
- . Operations analysis
- . Facilities management studies
- . Management information systems
- . Administrative studies
- . Organization and personnel surveys

Examples of experience with client projects include:

- ADP planning projects for the States of Colorado, Washington, and Virginia
- New York State Joint Accounting Improvement Program (Governor - Comptroller)
- Department of Welfare, City of New York; systems evaluation
- Florida State Turnpike Authority; comprehensive management survey
- Civil Service Department, New York State; comprehensive study of the Merit System
- New York City, City of Memphis; development of a city-wide ADP plan
- Department of Defense; automated budget reporting and expenditure forecasting system
- State of Florida; management survey of Florida Educational System

Previous Experience: International Business Machines Corporation, 1956-1959, EDP systems representative

United States Army Ordnance, Pittsburgh, Pa., 1953-1956, Organization and Methods Examiner

Resume of:
(Continued)

DENNIS E. MULVIHILL

Lecturer in Government, Duquesne University,
1949-1953

Other experience:

- Lecturer in Government, University of Pittsburgh, 1954-1958
- Lecturer in Business Administration, Wayne State University, 1959-1961

Education:

Duquesne University, B.A. - Government
M.A. - Public Administration
University of Pittsburgh, Ph.D. in Public and
Industrial Administration

Publications
and Presentations:

"Developing Systems Timing Specs,"
Datamation, April 1965.

"Organization for Effective Information Flow,"
Management Services, November-December 1965.

"The Present and Future Use of Computers in
State Government," Public Administration Review,
June 1965.

"Role of a Real Time Computer in a Total
Systems Concept," Ideas for Management, 1963
International Systems Meeting, Systems and
Procedures Association, 1964.

"It's Time to Share," Industrial Research,
January 1970.

Chairman of several seminars for AMA; speeches
before many professional groups.

Professional:

American Society for Public Administration
International Bridge, Tunnel and Turnpike
Association
Association for Educational Data Systems
American Hospital Association
U.S. Chamber of Commerce, Committee on Urban
and Regional Affairs
Municipal Finance Officers Association
Public Personnel Association

Active Security
Clearances:

"Q" Clearance, Atomic Energy Commission
Secret Clearance, First Army Headquarters
Secret Clearance, DISCO

Resume of:

REGINALD D. BARNES

Present
Position:

Consultant, Management Services
Touche Ross & Co.

Firm experience includes:

- Management information system; designed and implemented a comprehensive management reporting system for an ocean shipping company. Project included the development of operating budgets, standard costs, operating and spending variance analysis, and a procedures manual for preparation of management reports.
- Finance; participated in the financial analysis for the development of a self-insurance program of an industry with international representation.
- Integrated accounting system; project manager in the implementation of an automated accounting system in a large state agency. The system included spending controls for obligations, budgetary procedures, time reporting, property control, and a cost accounting/fund reporting system.
- Operations review; reviewed methods and systems in a large account processing department of a major credit card company. Project included the evaluation of management and operating personnel and recommendations for improved processing systems.
- Systems training; project manager in the development and presentation of an instructional course in an integrated accounting system to be implemented in the state agencies of the U.S. Department of Labor. The project included EDP and accounting management capability studies in the agencies of all states.
- Accounting system; participated in the development of a budgetary and cost accounting system at the federal and state levels for the U.S. Department of Labor, Manpower Administration.
- Systems implementation; responsible for the implementation of an automated time reporting and property control system. Developed conversion techniques and operating procedures, and trained personnel in system maintenance.

Resume of:
(Cont'd)

REGINALD D. BARNES

- Management placement; selection and screening of candidates in various functional areas for both senior and middle management positions.
- Participated in audits of large, medium, and small companies in the industries of finance, manufacturing, retailing, and construction.

Education:

University of Colorado, B.A. in Political Science
Universite de Geneve, Studies in the French language
University of Michigan, Graduate School of Business
Administration

Professional:

Michigan Association of Certified Public Accountants
American Institute of Certified Public Accountants

Resume of:

ARNOLD S. GWIRTZMAN

Present
position:

Consultant, Management Services
Touche Ross & Co.

Firm experience includes:

Travel Industry

Cost Determination

- Responsible for the planning and control of activities performed in a nation-wide study to determine the cost of marketing domestic air travel by airline ticket offices and travel agencies, undertaken on behalf of a joint airline-travel agency industry task force.

Accounting Systems Design

- Designed comprehensive Travel Agency Accounting System, wrote Accounting Manual, and conducted Regional Training Seminars, assisting a large travel organization in controlling the operations of its retail branches.

Computer Simulation

- Designed a computer simulation model to determine the economic feasibility, financial structure, underwriting policy, and method of capitalization for a proposed insurance vehicle to be mutually owned by participating international air carriers.

Banking & Finance Industry

Computer System Development

- Assisted a medium-sized multibranch bank in the installation and implementation of a computerized demand deposit accounting system.

Management Reporting

- Supervised the design and implementation of responsibility oriented financial and operating reports, enabling top management of a major credit card company to achieve greater control over its profit centers.

Resume of:
Continued

ARNOLD S. GWIRTZMAN

- Computer Simulation: designed a computer simulation model to determine the economic feasibility, financial structure, underwriting policy, and method of capitalization for a proposed insurance vehicle to be mutually owned by participating international air carriers.
- Economic cost feasibility: predicted the probable cost consequences of initiating credit sales operations under varying volume and operating conditions for a large retail chain.
- Participated in audits of large and medium-sized companies in the manufacturing, financial, and retail industries.

Previous
Experience:

Summer positions:

Lybrand, Ross Bros. & Montgomery

- Systems and procedures consulting.

Sidney Gwirtzman, CPA

- Audit, financial statement, and tax return preparation.

Equitable Life Assurance Society

- Participated in actuarial training program.

Education:

University of Pennsylvania, B.S. in
EconomicsCarnegie Institute of Technology, M.S. in
Industrial Administration

Professional:

Certified Public Accountant, New York
American Institute of CPA's
New York State Society of CPA's
National Association of Accountants
Beta Alpha Psi, National Honorary Accounting
Fraternity

Resume of:

ERIC JOSS

Present
Position:

Consultant, Management Services
Touche Ross & Co.

Firm experience includes:

Electrical Distribution Industry

- Designed, developed and implemented a nationwide study to measure the cost of distribution by product line for the electrical distribution industry. The study included the administration of teams performing on-site data collection throughout the country, and the computerization of the data.

Travel Industry

- Performed evaluation studies of the subsidiaries of a major travel corporation as part of a total profit improvement plan. Evaluated marketing strategy, financial planning, and information and control systems at several tour wholesalers.
- Implemented a proposal to decrease the bonding requirements for unearned receipts of a tour operator as required by the Civil Aeronautics Board.

Publishing Industry

- Performed a marketing and operational evaluation of a travel magazine for a major publishing company. In-depth interviews were conducted with executives from leading advertising agencies.
- Compiled comparative printing quotations from information supplied by prospective printers of a travel magazine.

Airline Industry

- Participated in the design, development and implementation of a cost and marketing study for a data processing equipment manufacturer who had developed an automated ticketing device. The study included financial analysis of costs, time studies, and the evaluation of different marketing strategies.

Resume of:
(Continued)

ERIC JOSS

Credit Card Industry

- Designed and implemented a daily balancing control system for a major credit card company.

Acquisition Analysis

- Performed financial and marketing analysis on a specialty magazine that was being considered for acquisition.
- Evaluated the financial data of theatre chains that were being considered for acquisition.
- Evaluated a foundation garment manufacturer, including plant analysis and the projection of financial needs.

Previous
Experience:

Hill Samuel Ltd.

Merchant Bankers, Johannesburg

- Assistant to the Director of New Issues, Mergers, and Acquisitions. Designed and implemented plans for a cooperative buying and marketing association for 92 small furniture retailers; collected and analyzed financial data.

Federal Mogul Corporation

(Automobile components manufacturer)

Southfield, Michigan

- Financial analyst on research program, part-time. Designed procedures for collecting and evaluating data from 122 distribution outlets for return on investment analysis.

S. S. Kaplan & Kaplan

(Chartered Accountants - South Africa)

- Audit clerk: Performed various accounting, financial, auditing, taxation, and legal assignments.

Education:

University of South Africa, C. T. A. (Accounting)

University of Michigan, M. B. A.

Professional:

Chartered Accountant (South Africa)

Transvaal Society of Accountants

Resume of: RAYMOND H. WECHSLER

Present Position: Consultant, Management Services
Touche Ross & Co.

Management services experience includes:

- Cost analysis and determination; supervised the collection, analysis, and interpretation of data for an industry-wide cost study of product profitability for a major distribution industry.
- Financial systems; determined the systems requirements for designing a financial planning and operations control system for a large public utility company.
- Management information systems; designed and installed a management information system for a large food commodity importer, and participated in the design of a new marketing distribution system.
- Cash flow analyses; designed a public financing program for a time-sharing applications company including the preparation of pro forma cash flow and earnings projections and capitalization requirements, and participated in other cash flow analyses for other companies.

Other firm experience includes:

- Systems analysis; performed systems analysis and review for a major bank, a textile firm, and an electric utility company.
- Participated in audits, including the presentation of letters of recommendation, as well as SEC and tax analysis for companies in computer leasing, credit cards, foreign lending, non-profit manufacturing, and diversified activities.

Education: Queens College, B.A. in Accounting
Columbia University, Graduate School of Business,
M.B.A. in Finance

Professional: Certified Public Accountant - New York

Memberships: American Institute of Certified Public Accountants
New York State Society of CPAs
National Association of Accountants
Frequent Guest Lecturer at American Management Association

Resume of: RICHARD W. LELASH

Present Position: Consultant, Management Services
Touche Ross & Co. - New York

Firm experience includes:

- Merger and acquisition studies; analyzed operations and financial statements of two merger candidates for printing company. Performed analyses and made recommendations concerning potential markets, tax implications, financial condition, management capabilities, and product line compatibility.
- Return on investment studies; analyzed two telecommunication companies' requests for rate of return increases for a state utility commission. Analyses covered costs of debt and equity capital, capital structure, rate base and separations verification, and quality of service measures.
- Regulatory rate of return studies; prepared direct testimony, exhibits, and rebuttal testimony for domestic rate case before the Civil Aeronautics Board. Work involved comparable earning and discounted cash flow methods, embedded cost of debt, and general economic analysis.
- Industry product cost manual; developed and presented a product costing manual for a national metal fabricating association. Manual included cost accounting procedure for both direct and absorption accounting and analysis of production process to determine cost centers.
- System study and analysis; critiqued and made recommendations for accounting and operation systems of an air charter company. Study included reservations procedure and financial controls.

Previous Experience: Wood Secreatarial School, Inc.

- Industrial and competitive studies, procedures analysis, feasibility studies for sale of business.

Seifert, GmbH. (West German industrial goods manufacturer)

- Marketing study of importing potential

Resume of: RICHARD W. LELASH
(Cont'd.)

Education: University of Pennsylvania, B.S. in Economics,
M.B.A. in Marketing.

Professional: American Marketing Association.
American Management Association.

Presentations: American Management Association - Speaker in
Finance Seminar, "Return on Investment - Applications
and Methods for Staff Financial Executives"

American Management Association - Speaker in
Marketing Seminar, "Financial Tools in Marketing -
Profit Planning and Analysis"

National Trade Association - Conducted seminar on
"Direct vs. Absorption Accounting Methods for
Production Control and Budgeting Decisions"

